State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

April 28, 2006

Board of Land
and Natural Resources
Honolulu, Hawaii

THE DIVISION OF AQUATIC RESOURCES REQUESTS BOARD OF LAND AND NATURAL RESOURCES (BLNR) AUTHORIZATION/APPROVAL TO ISSUE ONE (1) NORTHWESTERN HAWAIIAN ISLANDS (NWHI) SPECIAL ACTIVITY PERMIT TO CDR. TY W. RINOSKI, U. S. COAST GUARD CUTTER (USCGC) KUKUI, FOR ENTRY OF STATE WATERS AND MARINE DEBRIS REMOVAL AT MARO REEF

Submitted herewith for your authorization and approval is a request for issuance of one (1) NWHI Special Activity Permits to Ty W. Rinoski, C.O., USCGC Kukui. This access permit, described below, will allow activity to occur in the NWHI State marine Refuge (0-3 miles) waters surrounding Maro Reef. The purpose of this access is to support marine debris removal and mitigation at Maro Reef. The activities covered under this permit will occur from May 12 to May 29, 2006.

NOAA Fisheries has removed more than 492 metric tons of derelict fishing gear from the reefs and beaches of the NWHI since 1996. The debris snags on coral heads, killing the coral and destroying the coral reef ecosystem. Monk seals, turtles, seabirds, fish and invertebrates are injured or killed when they become entangled. This debris is a clear and present danger to protected species (monk seals, turtles), coral reefs, and the essential fish habitat provided by reefs. Due to the nature of the mechanism of debris entanglement on the substrate, some by-catch of benthic species, particularly those that have attached to the debris, is unavoidable. Concerted efforts will be made to return living substrate to the bottom and to minimize benthic disturbance while removing the debris.

REVIEW PROCESS:

This permit was received by the Division of Aquatic Resources on April 7, 2006. It was sent out for review and comment to the following scientific entities: Division of Aquatic Resources staff (5), Division of Forestry and Wildlife, Northwest Hawaiian Islands Reserve, United States Fish and Wildlife Service. Native Hawaiians from the Office of Hawaiian Affairs, and Kaho 'olawe Island Reserve Commission were also consulted.

Comments received from the Scientific Community (DAR and the NWHI Reserve) are summarized as follows:

1) USCGC protocols for minimizing damage to benthic organisms and wildlife during net removal appear adequate
2) Specific locations of debris removal activities should be noted
3) Reserve staff requested clarification on the request to go ashore

All reviews of the permit application recommended that the activity be approved, with consideration to the expressed concerns.

USCG RESPONSE:
Commander Rinoski was contacted by telephone on April 18, 2006 regarding the request to go ashore, and it was determined that the request was in error, as there is no emergent land at Maro Reef.

FINAL STAFF RECOMMENDATIONS:

1) Allow the U.S. Coast Guard Cutter Kukui entry into State waters to support marine debris removal and mitigation at Maro Reef.
2) Allow the take of broken/entangled corals and marine algae associated with debris.
3) Ensure that USCG provides GPS information regarding debris removal activities during the reporting process.

RECOMMENDATION:

"That the Board authorize and approve, with stated conditions, a Special Access Permit to Ty W. Rinoski, USCGC Kukui, for activities and access within the State waters of the NWHI."

Respectfully submitted,

DAN POLHEMUS
Administrator

APPROVED FOR SUBMITTAL

PETER T. YOUNG
Chairperson

APPENDIX 1

State of Hawai'i
DLNR
Northwestern Hawaiian Islands State Marine Refuge
Permit Application Form

For Office Use Only
Permit No:
Expiration date:
Date Appl. Received: 04/07/06
Appl. Fee received: N/A
NWHI Permit Review Committee date: 4/19/06
Board Hearing date:
Post to web date:

Type of Permit

☐ I am applying for a **Research, Monitoring & Education** permit. (Complete and mail Application)
- ☐ This application is for a NEW project in the State Marine Refuge.
- ☐ This application is for an ANNUAL RENEWAL of a previously permitted project in the State Marine Refuge.

☐ I am applying for a permit for a **Native Hawaiian** permit. (Complete and mail Application)

- ☐ This application is for a NEW project in the State Marine Refuge.
- ☐ This application is for an ANNUAL RENEWAL of a previously permitted project in the State Marine Refuge.

☒ I am applying for a **Special Activity** permit. (Complete and mail Application)

- ☐ This application is for a NEW project in the State Marine Refuge.
- ☒ This application is for an ANNUAL RENEWAL of a previously permitted project in the State Marine Refuge.

Briefly describe **Special permit** activity:

When will the NWHI activity take place?

☒ **Summer** (May-July of __2006___ (year)
Note: Permit request must be received before February 1st
Specific dates of expedition ___~May 12, 2006 through ~May 29, 2006___

☐ **Fall** (August-November) of _2006___ (year)
Note: Permit request must be received before May 1st
Specific dates of expedition ____

☐ **Other**

NOTE: INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Please Send Permit Applications to:

NWHI State Marine Refuge Permit Coordinator
State of Hawai'i
Department of Land and Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, Hawai'i 96813

NWHI State Marine Refuge Permit Application
See Appendix 2 for Application Instructions

Section A – Applicant Information	
1. Project Leader (attach Project Leader's CV or resume) ☐ CV attached Rinoski, CDR Ty W. Name: Last, First, Middle Initial	 Commanding Officer, *USCGC Kukui* Title
2. Mailing Address (Street/PO Box, City, State, Zip) USCGC Kukui 400 Sand Island Pkwy Honolulu, HI 96819	Telephone (808) 842-2860 Fax (808) 842-2864 Email Address trinoski@cgckukui.uscg.mil
3. Affiliation (Institution/Agency/Organization) United States Coast Guard	For graduate students, Major Professor 's Name & Telephone
4. Sub-Permittee/Assistant Names, Affiliations, and Contact Information attached ☐ CV or resume attached	
5. Project Title Marine Debris removal and mitigation	
6. Applicant Signature	7. Date (mm/dd/yyyy)

Section B: Project Information

8. **(a) Project Location**

☒ NWHI State Marine Refuge (0-3 miles) waters surrounding:

- ☐ Nihoa Island
- ☐ Necker Island (Mokumanamana)
- ☐ French Frigate Shoals
- ☐ Laysan
- ☒ Maro
- ☐ Gardner Pinnacles
- ☐ Lisianski Island, Neva Shoal
- ☐ Pearl and Hermes Atoll
- ☐ Kure Atoll, State Wildlife Refuge
- ☐ Other NWHI location

Describe project location (include names, GPS coordinates, habitats, depths and attach maps, etc. as appropriate).

Activity will only occur in the shallow reef complex of Maro Reef.

(b) check all actions to be authorized:

☒ Enter the NWHI Marine Refuge waters

☒ Take (harvest)by-catch ☐ Possess ☒ Transport (☒ Inter-island ☐ Out-of-state) Out of state=Midway

☐ Catch ☒ Kill ☐ Disturb ☐ Observe

☒ Anchor ☒ Land (go ashore) ☐ Archaeological research

☒ Interactions with Sea Turtles or Monk Seals ☒ Interactions with Seabirds

☒ Interactions with Live Coral, Ark Shells or Pearl Oysters

☒ Interactions with Jacks, Grouper or Sharks

☐ Conduct Native Hawaiian religious and/or cultural activities

☐ Other activities _____

(c) Collection of specimens – collecting activities (would apply to any activity): Due to the nature of the mechanism of debris entanglement on the substrate, some by-catch of benthic species will take place during the removal of derelict fishing gear from Maro Reef. Concerted efforts will be made to return "living" substrate to the bottom and to minimize benthic disturbance while removing the debris.

Organisms or objects (List of species, if applicable, add additional sheets if necessary):

Scientific Name	No. & Size of specimens	Collection Location
Pocillopora meandrina	Variable; dependent on number and size of coral heads and/or fragments that have been broken from the substrate and become entangled in the net as it has moved across the bottom, encapsulated the debris, or recruited directly on the debris	Maro Reef
Pocillopora eydouxi		
Pocillopora ligulata		
Pocillopora verrucosa		
Pocillopora molokoensis		
Pocillopora damicornis		
Unidentified pocilloporid		
Porites lobata		
Porites compressa		
Porites evermanni		
Porites brighami		
Montipora capitata		
Montipora turgescens		
Montipora flabellata		
Montipora patula		
Pavona duerdeni		
Psammacora nierstrazi		
Psammacora stellata		
Cypohastrea ocellina		
Marine Algae (including holdfasts)		

(d) What will be done with the specimens after the project has ended?

(e) Will the organisms be kept alive after collection? ☐ yes ☒ no

- Specific site/location _____
- Is it an open or closed system? ☐ open ☐ closed
- Is there an outfall? ☐ yes ☐ no

- Will these organisms be housed with other organisms? If so, what are the other organisms?

(Please attach additional documentation as needed to complete the questions listed below)

9. Purpose/Need/Scope:

- State purpose of proposed activities:

The multi-agency debris removal expeditions led by NOAA Fisheries have removed more than 492 metric tons of derelict fishing gear from the reefs and beaches of the NWHI since 1996. It is estimated that hundreds of metric tons of derelict fishing gear remain fouled on these reefs and beaches, posing a clear and present danger to protected species (monk seals, turtles), coral reefs, and the essential fish habitat provided by reefs. These facts warrant further efforts to investigate and mitigate the lethal and sub-lethal effects of accumulated marine debris. The enormity and significance of this problem requires a corresponding magnitude and intensity of debris removal efforts and studies. To address these concerns, and to follow up on debris removal efforts conducted from 1996-2005, the U.S. Coast Guard (USCG), in partnership with other concerned governmental agencies and non-governmental organizations, proposes to conduct a total 2 week effort targeting the shallow reefs (≤30 feet) of Maro Reef.

Describe how your proposed activities will help provide information or resources to fulfill the State Marine Refuge purpose and to reach the Refuge goals and objectives.

The proposed activities are consistent with and support the purposes of the Refuge as directed by the Department, specifically §13-60 5.1 (4) "To support, promote, and coordinate appropriate scientific research and assessment, and long-term monitoring of the refuge resources, and the impacts or threats thereto from human and other activities, to help better understand, protect, manage, and conserve consistent with applicable law."

The NOAA Marine Debris program with aid of the USCG, works to remove derelict fishing gear from the reefs and beaches of the NWHI. By limiting the anthropogenic negative impacts from the ecosystem, the Marine Debris program advances the refuge goals to promote and protect a healthy productive environment and the living resources that lie within.

- Give reasons why this activity must take place in the NWHI and cannot take place in the Main Hawaiian Islands, or elsewhere.

The geographical location of the NWHI subjects the reefs to debris floating in the North Pacific Subtropical Convergence Zone. This convergence zone collects floating debris into a band that encompasses the archipelago depositing debris along its path. Due to the oceanic position, and the sensitivity of the NWHI ecosystem, debris accumulation and the corresponding negative impacts are of greater concern in the NWHI, than in the MHI. It is because of these reasons that NOAA and the United States Coast Guard have focused historically on the reefs and beaches of the northwestern part of the archipelago.

- Describe context of this activity, include history of the science for these questions and background.

The Hawaiian Islands National Wildlife Refuge (HINWR) in the Northwestern Hawaiian Islands (NWHI) comprises a large percentage of U.S. coral reefs. Surveys of these islands from 1979 to 1983 reported relatively pristine reefs, but by 1996 the reefs were suffering from substantial anthropogenic damage, primarily due to the effects of derelict fishing gear. While land-based sources may be responsible for the majority of marine debris in the world's oceans, debris of maritime origins may pose the greatest threat to ecosystem health in the (HINWR). The remote central Pacific location and extensive shallow reefs of the HINWR filter derelict fishing gear originating throughout the Pacific Rim. The North Pacific Subtropical Convergence Zone provides a mechanism for debris accumulation in this region. Much of this accumulated debris is ultimately deposited on the coral reefs and beaches of the HINWR.

- Explain the need for this activity and how it will help to enhance survival or recovery of refuge wildlife and habitats.

Preliminary results from other U.S. Pacific Islands suggest that a disproportionate amount of North Pacific derelict fishing gear accumulates in the HINWR. Derelict fishing gear poses a serious and lethal threat to macrofauna in environments where this debris is present, as well as being a hazard to safe navigation. The reef communities of the HINWR include protected species and other rare and endemic wildlife. All marine turtles that occur in Hawaiian waters have documented entanglement records including the endangered hawksbill (*Eretmochelys imbricate)*, olive ridley *(Lepidochelys oliveacea),* and leatherback *(Dermochelys coriacea)* sea turtles, as well as threatened green sea turtles (*Chelonia mydas)*. Entanglement in derelict fishing gear is also a known cause of mortality to the critically endangered Hawaiian monk seal *(Monachus schauinslandi).* All six extant breeding subpopulations of this seal are located in the HINWR, and they suffer the greatest entanglement rate of any pinniped reported to date. Seabirds whose reproductive grounds are located on land features associated with the extensive reef systems of the HINWR have also been found lethally entangled in derelict nets, thereby encompassing wildlife resources overwhich the U.S. Fish and Wildlife Service and DLNR have direct stewardship. In addition to marine mammals, sea turtles, and seabirds, fish and crustaceans are also at risk from entanglement in derelict fishing gear, thus broadening the ecological scope of these anthropogenic impacts.

Furthermore the movement of derelict fishing gear across shallow atolls threatens the ecological balance of the reef community itself. Once derelict fishing gear snags on the atolls of the HINWR, it begins a cycle of destructive activity. Derelict fishing gear modifies the reef structure by damaging the coral substrate that comprises the reef. After snagging on coral reefs, wave action forces on the debris breaks the coral heads on which debris is fixed, liberating the debris to subsequently snag and similarly damage additional coral. This action continues until the nets are removed, or become adequately weighted with abraded coral to sink.

By removing the debris from this environment, the negative impacts and stress placed on the benthic ecosystem and its inhabitants are mitigated.

- Describe how your proposed project can help to better manage the State Marine Refuge.

This project aims to remove as much derelict fishing gear as it can find in the duration of the proposed field season. Once removed from the marine environment, this gear will no longer pose a threat to marine organisms, allowing for the regrowth and repopulation of the benthic community.

10. Procedures (include equipment/materials)

Coast Guard and NOAA divers will methodically swim survey submerged reefs searching for entangled derelict fishing gear. Upon sighting a derelict net and/or net fragment, a hand signal will be given to call the boats and a GPS waypoint will be taken. Debris type and size, fouling level, water depth, and substrate type will be recorded. During debris recovery, workers cut debris free from the substrate, using care to avoid additional coral damage. To the maximum extent possible, detached coral heads and fragments entangled in the nets will be extracted on-site and returned to the bottom. Derelict nets in which >75% of surface area has been incorporated into the reef structure and are no longer an entanglement hazard will be left in place to avoid additional coral damage. Once freed from entanglement, the nets will be hauled into the boat and then taken to the ship where they will make their way back to Honolulu for proper disposal.

Protocol for Minimizing Benthic Disturbance: Debris search and recovery surveys will be conducted in shallow water (≤ 30 feet), within a range generally workable by snorkel free-diving. SCUBA, with its more prolonged bottom time, will be used only for more complex recovery efforts that cannot be accomplished safely by free-diving. Care will be taken during anchoring small boats to select a substrate in which benthic disturbance is minimized (e.g., sand, rubble). The anchor will be lowered rather than thrown, and a diver will check the anchor to make sure it does not drag.

Gear will include liftbags, taglines, cargo nets, dive gear, small boats, clipboards, pencils, GPS receivers, trauma kits and handheld radios, all to be returned to the ship daily.

11. Funding sources (attach copies budget & funding sources).

All projects are funded by the USCG.

12. List all literature cited in this application as well as all other publications relevant to the proposed project.

Amy Hall, Jake Asher, Seema Balwani and Jennifer Stephenson (2005). Northwestern Hawaiian Islands and Main Hawaiian Islands Marine Debris Removal Program. 2005 Sustainable Beaches Conference October 31 - November 2, 2005 Renaissance Vinoy Resort St. Petersburg, Florida. Abstract accepted.

Jennifer R. Stephenson and Amy Hall. Derelict Fishing Gear in the Coral Reef Ecosystem of the Northwestern Hawaiian Islands. In Abstract/Poster: 2nd National Conference on Coastal and Estuarine Habitat Restoration. September 12-15th 2004, Seattle, WA.

Raymond Boland, Brian Zgliczynski, Jacob Asher, et al. (2004). DYNAMICS OF DEBRIS DENSITIES AND REMOVAL AT THE NORTHWESTERN HAWAIIAN ISLANDS CORAL REEFS. (In press) Proceedings from the 2004 NWHI Symposium, Honolulu, HI: pp. 1-19.

Jacob M. Asher, Amy Hall and Michael Noah. DERELICT FISHING GEAR ACCUMULATIONS IN THE NORTHWESTERN HAWAIIAN ISLANDS FROM 2001 TO 2003. In Abstract. The Seventh Regional Symposium PACON International. Honolulu, Hawaii, June 2004.

Jennifer R. Stephenson, Gregory S. Schorr, and Michael Noah. BENTHIC HABITAT IMPACTS CAUSED BY DERELICT FISHING GEAR, PEARL AND HERMES ATOLL. In Abstract. The Seventh Regional Symposium PACON International. Honolulu, Hawaii, June 2004.

Asher, J. and Timmers, M.A. (2003). The Occurrence of Live Corals on Derelict Fishing Gear in the Northwestern Hawaiian Islands. In: Abstract. The Sixth Regional Symposium PACON International. Kaohsiung, Taiwan, November 2003.

Timmers, M. A. and Donohue, M. J. (2003) Challenges Identifying Fisheries from Fishing Gear Removed in the Northwestern Hawaiian Islands. In: Abstract. The Sixth Regional Symposium PACON International. Kaohsiung, Taiwan, November 2003.

David G. Foley, Russell E. Brainard, Tim Veenstra, Mary E. Donohue, Kyle Hogrefe, and R. Michael Laurs (2003). Spatial and Temporal Variations of the North Pacific Subtropical Convergence. In Abstract. The Sixth Regional Symposium PACON International. Kaohsiung, Taiwan, November 2003.

13. What types of insurance do you have in place? (attach documentation) The *Kukui* is owned by the U.S. Government and is therefore self-insured.

☐ Wreck Removal

☐ Pollution

14. What certifications/inspections do you have scheduled for your vessel? (attach documentation)

☒ Rat free ☐ tender vessel ☐ gear/equipment

☒ Hull inspection ☐ ballast water

15. Other permits (list and attach documentation of all other required Federal or State permits).

The *Kukui* has a pending Special Use Permit from the U.S. Fish and Wildlife Service to support marine debris removal within the Hawaiian Islands NWR.

16. Project's relationship to other research projects within the NWHI State Marine Refuge, National Wildlife Refuge, NWHI Coral Reef Ecosystem Reserve, or elsewhere.

The NOAA Fisheries Coral Reef Ecosystem Division marine debris program works in conjunction with the USCG to remove derelict fishing gear within the NWHI and the USFWS Refuge Complex. CRED is also heavily involved with research and monitoring of the coral reef ecosystems in the NWHI and USFWS Refuge Complex, which includes annual Rapid Assessment and Monitoring Program (RAMP) cruises to the NWHI. Finally, the CRED marine debris program has worked closely with the NOAA Protected Species Division (PSD) and the USFWS to assist with monitoring of protected species, remote island resources, and logistical support of remote field staff through mitigative and cooperative efforts in the NWHI.

Section C: Logistics

17. Time Frame:

Project Start Date	Project Completion Date
May 12, 2006	May 29, 2006

Dates actively inside the State Marine Refuge.

Maro Reef: May 15- May 26

Personnel schedule in the State Marine Refuge (describe who will be where and when).

See above. Entire ships complement (already submitted separately) will be within the refuge on the specified dates.

18. Gear and Materials

☒ Dive equipment ☐ Radio Isotopes

☒ Collecting Equipment ☐ Chemicals (specify types)

19. Fixed installations and instrumentation.

☐ Transect markers ☐ Acoustic receivers

☐ Other (specify)

No fixed installations or instrumentation will be used within the Refuge.

20. Provide a time line for sample analysis, data analysis, write-up and publication of information.

A report of all activities carried out under the permit authority will be submitted to the DLNR following the conclusion of the cruises. The report will include the dates of all arrivals and departures from islands and atolls within the Refuge, names of all persons involved, results of work to date, and a proposed schedule of publication or data analyses. Important activities will be video and/or photo-documented, and video and/or photographic evidence of the debris removal activities will be collected.

21. **Vessel Information**:

Vessel Name __*USCGC Kukui*_____ IMO Number __na_____

Vessel Owner __US Coast Guard Flag ___U.S.A._____

Captain's Name Cmdr. Ty Rinoski_____ Chief Scientist or Project Leader _Rusty Brainard

Vessel Type _Juniper class sea going Buoy Tender_____ Call sign ____NKJU_____

Length ____225 ft._____ Gross tonnage _____2,014_____

Port of Embarkation _____Honolulu _____

Last port vessel will have been at prior to this embarkation __Honolulu, Hawaii____

Total Ballast Water Capacity: Volume _96,233 gal Total number of tanks on ship ____7_____

Total Fuel Capacity: _____78821_gal_____ Total number of fuel tanks on ship ___13____

Other fuel/chemicals to be carried on board and amounts:

Hydraulic Oil: 2784 gal

Engine Oil: 2644 gal

- Number of tenders/skiffs aboard and specific type of motors:
- Sea Ark Skiff
  - Quantity: 3
  - Type: Steel planing hull
  - Length: 24 ft.
  - Propulsion: 90hp outboard motor
  - Capacity: 8 persons
- Tender
  - Quantity: 1
  - Type: RHIB
  - Length: 22 ft.
  - Propulsion: 3.4 L Diesel i/o
  - Capacity: 5 persons
- Tender 2
  - Quantity: 1
  - Type: Sea Ark
  - Length: 24 ft.
  - Propulsion: 4.2 L Diesel i/o
  - Capacity: 7 persons

Does the vessel have the capability to hold sewage and grey-water? Describe in detail. 2800 gal tank for grey water storage. 1771 gal tank for sewage.

Does the vessel have a night-time light protocol for use in the NWHI? Describe in detail (attach additional pages as necessary) Standard anchor lights in accordance with International Rule of the Road.
On what workboats (tenders) will personnel, gear and materials be transported within the State Marine Refuge? Workboats listed above detailed to the *Kukui* will be used to transport gear and materials between ship and the reef system.
How will personnel, gear and materials be transported between ship and shore? Workboats and tenders as described above.
If applicable, how will personnel be transported between islands within any one atoll? Does not apply; no present islands at Maro Reef.

Personnel

1	Acton, Jason L.	BM1	CGC KUKUI
2	Bowen, Larry H.L.	HSC	CGC KUKUI
3	Braithwaite, Scott R.	BM2	CGC KUKUI
4	Britton, Peggy M.	LT	CGC KUKUI
5	Brown, Benjamin G.	BM2	CGC KUKUI
6	Coito, Joel C.	ENS	CGC KUKUI
7	Deweese, Shawn B.	LTJG	CGC KUKUI
8	Dinger, Timothy J.	BM3	CGC KUKUI
9	Domenech, Ivan J.	YN2	CGC KUKUI
10	Eckel, Elaine M.	LTJG	CGC KUKUI
11	Eli, Thomas M.	FS2	CGC KUKUI
12	Evans, Todd M.	EM3	CGC KUKUI
13	Flippin, Dakota N	SN	CGC KUKUI
14	Gardner, James T.	EM1	CGC KUKUI
15	Garza, Frederick D.	FN	CGC KUKUI
16	Hanika, Johnny M.	FS2	CGC KUKUI
17	Hanson, Justin C.	MK1	CGC KUKUI
18	Haut, Crede R.	MKC	CGC KUKUI
19	Hejl, Scotty L.	MK3	CGC KUKUI
20	Hernaez, Dorothy J.	LTJG	CGC KUKUI
21	Jackson, William J.	SK1	CGC KUKUI
22	Kane, Kalanikapu K.	MK3	CGC KUKUI
23	Lombard, Marc A.	BM3	CGC KUKUI
24	Lopez, Eddie	MK1	CGC KUKUI
25	Luton, Timothy M.	BOSN3	CGC KUKUI
26	Macaraeg, Gabby C.	SK3	CGC KUKUI
27	Marseglia, Barry A.	DC3	CGC KUKUI
28	Martin, Joshua W	SN	CGC KUKUI
29	Mcdougald, Ryan O.	MK1	CGC KUKUI
30	McElhaney, Joshua T.	BM2	CGC KUKUI
31	Mcneil, Albert A	SA	CGC KUKUI
32	Mowery, Brian C.	FS3	CGC KUKUI
33	Murray, Seth J.	ET2	CGC KUKUI
34	Padrucco, Paul Francis	SN	CGC KUKUI